PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF THE RECORDING OF A CHANGE

(PCT Rule 92bis.1 and Administrative Instructions, Section 422)

To:

GRAVES, Ronald
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ROYAUME-UNI

Date of mailing (day/month/year)
29 November 2000 (29.11.00)

Applicant's or agent's file reference
RG-32PCT

IMPORTANT NOTIFICATION

International application No.
PCT/GB00/01841

International filing date (day/month/year)
15 May 2000 (15.05.00)

1. The following indications appeared on record concerning:

[X] the applicant [ ] the inventor [ ] the agent [ ] the common representative

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2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

[X] the person [X] the name [X] the address [ ] the nationality [ ] the residence

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3. Further observations, if necessary:
The applicants identified in Box No.1 are to be considered as applicants/inventors for US only, since they assigned their rights for all designated States except US to a new applicant identified in Box No.2.

4. A copy of this notification has been sent to:

[X] the receiving Office
[X] the International Searching Authority
[ ] the International Preliminary Examining Authority
[X] the designated Offices concerned
[ ] the elected Offices concerned
[ ] other:

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Authorized officer
Dominique DELMAS
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Copy for the designated Office (DO/US)

PATENT COOPERATION TREATY

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International filing date (day/month/year)
15 May 2000 (15.05.00)

1. The following indications appeared on record concerning:

[X] the applicant [X] the inventor [ ] the agent [ ] the common representative

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3. Further observations, if necessary:

4. A copy of this notification has been sent to:

[X] the receiving Office
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[ ] the International Preliminary Examining Authority
[X] the designated Offices concerned
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The International Bureau of WIPO
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Form PCT/IB/306 (March 1994)

003690030

PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

To:

Commissioner
US Department of Commerce
United States Patent and Trademark
Office, PCT
2011 South Clark Place Room
CP2/5C24
Arlington, VA 22202
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 15 February 2001 (15.02.01)	
International application No. PCT/GB00/01841	**Applicant's or agent's file reference** RG-32PCT
International filing date (day/month/year) 15 May 2000 (15.05.00)	**Priority date** (day/month/year) 20 May 1999 (20.05.99)
Applicant MAHER, Caroline et al	

1. The designated Office is hereby notified of its election made:

[X] in the demand filed with the International Preliminary Examining Authority on:

20 December 2000 (20.12.00)

[ ] in a notice effecting later election filed with the International Bureau on:

2. The election [X] was

[ ] was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO **34, chemin des Colombettes** **1211 Geneva 20, Switzerland**	Authorized officer Olivia TEFY
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(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

CORRECTED VERSION

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
30 November 2000 (30.11.2000)

PCT

(10) International Publication Number
WO 00/71075 A1

(51) International Patent Classification[7]: A61H 23/02, A61N 1/32, 1/36, H04R 1/10

(21) International Application Number: PCT/GB00/01841

(22) International Filing Date: 15 May 2000 (15.05.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

9911614.7	20 May 1999 (20.05.1999)	GB
9926049.9	4 November 1999 (04.11.1999)	GB
0003189.8	12 February 2000 (12.02.2000)	GB

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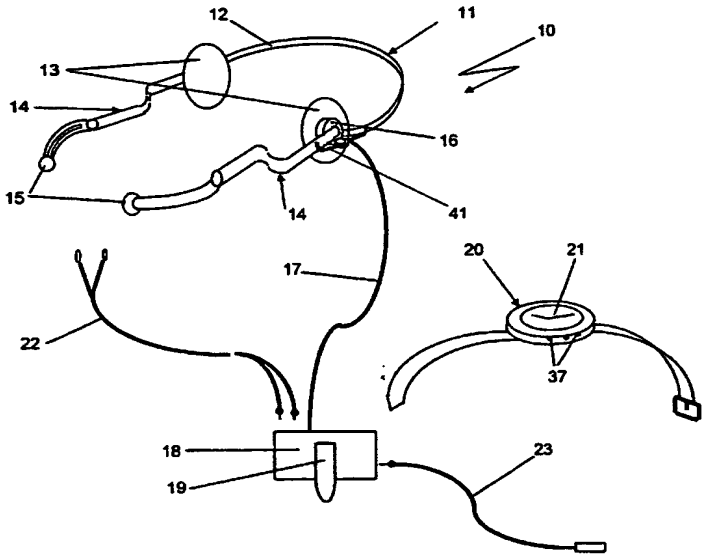
(81) Designated States *(national)*: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

Published:
— *With international search report.*

[Continued on next page]

(54) Title: BODY TREATMENT PRODUCT



(57) Abstract: A body treatment product (10) suitable for home or salon use and which allows the user to pursue other activities during its use is provided. The product (10) applies electrical pulses to the skin for toning and massaging the muscles, especially the facial muscles. The product (10) has one or more body contactors (15) operable to apply electrical pulses to the body of a person being treated and a control unit (20) operable to control the characteristics of the electrical pulses. The product (10) includes a body unit (11) adapted to be worn on the person and which supports the body contactor(s) (15) through adjustable links (14). For facial massage the body unit (11) has a headband (12), which incorporates ear pads (13) so that the wearer may listen to instructions or music played on an audio system (40) whilst being massaged.

WO 00/71075 A1

(48) **Date of publication of this corrected version:**
25 May 2001

(15) **Information about Correction:**
see PCT Gazette No. 21/2001 of 25 May 2001, Section II

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

BODY TREATMENT PRODUCT

This invention relates to body treatment products, and in particular to devices for toning and massaging the muscles, especially the facial muscles.

It has been established that if a person's muscles are exercised, those muscles will grow and increase in strength, or at least any tendency to reduce in size and lose strength is minimised. Such exercising tones the muscles and reduces muscle tension. On that basis, if the facial muscles just below the surface of the skin can be suitably exercised or stimulated, then they can be strengthened and the growth of muscle mass will be encouraged. This can be a significant factor in maintaining, as a person ages, a taut, smooth-looking skin with a minimum of lines and wrinkles. This is a much sought after objective, particularly in the facial area, on which a great deal of time and money is spent within the beauty industry.

There are many known techniques and devices available which purport to achieve at least some measure of success in achieving these objectives. Surgical techniques are intrusive, can be painful and are generally very costly. Non-surgical techniques and the various known devices for performing them often have associated problems and very unpredictable results. Such devices are intended to tone and massage the muscles and are known as muscle stimulators. One such device for stimulating the facial muscles which is intended to achieve the above objective without many of the problems associated with the other techniques and devices is described in GB-2234965A. The muscle restructuring system device described in GB 2234965A applies a train of electrical pulses to the skin at a frequency which activates muscle contraction. For toning purposes, the pulses are mono-phase square waves at a voltage of 0 to 80 volts at a frequency of 20 to 80 Hz with a pulse length of 200 to 600 μsecs. For massage, this output, at a constant 15 Hz, is superimposed on a notional slow sine wave at a frequency of about 0.3 Hz at a voltage of 0 to 15 volts. The facial probes and pads are connected by electrical leads to a control unit for varying the pulse strength, frequency and duration. Such a device and the other known muscle stimulator devices are more particularly suited to salon use although attempts have been made to adapt the device for home use. In either case, several pads and probes have to be attached to the skin, for example by taping. For this reason, and because of the relatively cumbersome control unit and the existence of the multitude of leads to the facial probes and pads, it is necessary that the person being treated remains seated throughout the period of treatment. This may be up to 30 minutes at a time. Furthermore, there is a tendency for the leads to become entangled, which can result in one or more probes or pads becoming detached from the face.

The objects of the present invention are to provide a body treatment product adapted to stimulate the muscles which avoids, at least to a significant extent, the problems associated with the known devices and one which is equally suitable for home or salon use. It is a further object of the present invention to provide a muscle stimulator which allows the user more easily to pursue other activities during its use than is the case with known devices.

The invention provides a body treatment product for applying electrical pulses to the skin, having at least one body contactor operable to apply electrical pulses to the body of a person being treated and a control unit operable to control the characteristics of the electrical pulses, comprising a body unit adapted to be worn on the person and which supports the at least one body contactor. The body unit may be a head unit adapted to be worn on the head, in which case the body contactor may be a facial contactor. The body treatment product may have a plurality of body contactors, each of which is supported by the body unit. The body contactors may be pads or probes. Body contacting pads may have an adhesive body contacting surface. The pads may comprise an adhesive pad detachably connected to a mounting block. The adhesive pad may be connected to the mounting block by means of a 'press-stud' fixing.

Each body contactor may be supported by the body unit by means of a link. Each link may be pivotally attached to the body unit, and may be pivotally attached to a respective body contactor. Each link may be formed of a plurality of parts, each part pivotally attached to an adjacent part. Each link may be of a resilient material, and may be a polyethylene extrusion. Links on opposed sides of the body unit may be resiliently biased towards each other. Each link may be formed as a box section. Each body contactor may be slidable longitudinally of the respective link to which it is attached, and may have at least 10 mm, preferably up to 15 mm, of sliding movement. The sides of the links and the mounting blocks may have co-operating tapers.

The control unit may be operable to control the electrical pulses applied by the body contactors remotely, preferably by means of an infra-red signal. A signal receiving device may be mounted on the body unit. The signal receiving device may increment a parameter of the electrical pulse by a predetermined amount on receiving a signal from the control unit. The control unit may be operable to control the strength, frequency and/or the duration of the electrical pulses, and may control which body contactors are active. The pulse voltage may be between 50 and 25 volts. The control unit may be adapted to be worn by the person being treated, and may be adapted to be worn on the wrist of the person. The control unit may comprise a watch, which may have a stop watch and/or a timer function. Alternatively the control unit may comprise a computer, which may operate in response to a program on a disc.

The control unit may have a re-use delay function. The control unit may be electrically connected to a power unit, and the power unit may be adapted to be worn by the person. The power unit may be adapted to be worn on the belt of the person.

The product may also comprise an audio system. In this case the body unit may comprise headphones. An audio device may be connected to the headphones, and the audio device may be a radio and/or a tape or disc player. The audio device may be adapted to be worn on a belt of the person. The control unit may be operable to control the volume and the operating mode of the audio device, e.g. radio/cassette, radio programme. The audio system may be coupled to the control unit whereby the control unit is operable to control the electrical pulses applied by the body contactors in response to an output signal from the audio system. The signal receiving device may vary a parameter of the electrical pulse in response to the output signal from the audio system on receiving a corresponding signal from the control unit. The audio system output signal may be used to control the strength, frequency, waveform and/or the duration of the electrical pulses, which may be in synchronisation with audio system output signal for an enhanced effect of the facial stimulation.

The invention will now be further described with reference to the accompanying drawings in which:

Fig. 1 is an illustration of one embodiment,

Fig. 2 is an enlarged view of an arm of the product of Fig. 1,

Fig. 3 is a scrap section of the arm of Fig. 2, and

Fig. 4 is a schematic of the control system

Referring now to Fig 1 there is shown a muscle stimulator 10 which has a head unit 11 consisting of a resilient head band 12 which is worn over the head of a person undergoing treatment with the muscle stimulator 10 in the manner of headphones or a personal stereo radio/cassette player. To each end of the head band 12 is attached an ear pad 13 and one end of a link 14. At the other end of each link 14 is a facial contactor 15, which may be in the form of an adhesive pad which is about 10 mm square, or a probe. Also attached to one end of the head band 12 is an infra-red signal receiver 16 which is individually electrically connected to the pads or probes 15. An electrical lead 17 connects the receiver 16 with a battery pack power unit 18. The battery pack unit 18 has a clip 19 by means of which it may be worn on a belt around the person's waist. A control unit 20 which is adapted to be worn on the person's wrist is combined with a watch 21, preferably having a stop watch and/or timer function, for example 5 min countdown for muscle stimulation, 15 min for massage. The control unit 20 generates infra-red signals which are received by the signal receiver 16. Another lead

22 may be connected to the battery pack power unit 18 to provide power to motor point/massage heads (not shown), and an audio lead 23 may be connected to a personal stereo radio/cassette player 40 (Fig. 4).

One of the links 14 is shown in greater detail in Fig. 2. In this case, each link 14 consists of two parts, a primary link 24 and a secondary link 25 which are articulated to each other at a joint 26 so that relative movement of up to 180° can take place as shown by arrow A. Such relative positioning may be continuously variable or there may be co-operating formations in the joint 26 to provide pre-set relative positioning at, for example, every 10° within the range of movement. The primary link 24 is similarly rotatably attached to the signal receiver 16, ear pad 13 and head band 12, so as to be positionally adjustable relative thereto as shown by arrow B. A face contacting adhesive pad 15 is mounted on the secondary link 25, and a second face contacting adhesive pad 27 may be mounted on the primary link 24. These pads 15, 27 are slidable along the respective links 24, 25 as shown by arrows C, and as shown in greater detail in Fig. 3. The links 24, 25 are of T-shaped box form in cross-section and are mounted and shaped such that the pads 15 must be moved apart from each other in order to place them on the face. The links 24, 25 are preferably made from a polyethylene extrusion to provide springiness to grip the person's face. Alternatively or in addition the links 24 may be resiliently biased towards each other by means of springs 41. The outer part 28 of the T-section provides a trough for the electrical wires 36 (Fig. 4) from the receiver 16 to the pads 15, 27. On the inner face of the links 24, 25 is a slot 29 through which the T-shaped mounting block 30 protrudes so that the mounting block 30 can slide longitudinally of the link 24, 25. Each pad 15, 27 is removably attached to its mounting block 30 by means of a 'press-stud' attachment 31 which also has concentric electrical contacts 32, 33. The sides of the slot 29 and the protruding part of the mounting block 30 are correspondingly tapered. Pushing the link 24, 25 and the pad 15, 27 together has the effect of locating the mounting block 30 in the link 24, 25, whilst pulling the link 24, 25 and pad 15, 27 in the opposite direction releases the mounting block 30 from the slot 29 to allow the pad 15, 27 to be moved along the link 24, 25. The travel of the pads 15, 27 along the links 24, 25 may be up to 15 mm. By moving the pads 15, 27 along the links 24, 25 and swivelling the links 24, 25 relative to each other and the head unit 11 allows the person to position the pads 15, 27 at the desired places on the face. By pulling the links 14 apart, thereby releasing the links 14 from the pads 15, 27, the head unit 11 and links 14 can be removed from the head, and the pads 15, 27 can then be removed from the face individually.

Referring now to Fig. 4, the power unit 18 comprises a battery pack 34 and a pulse generator 35 to which it is connected. The generated pulses pass along the lead 17 to the receiver 16 on

the head unit 11. From the receiver 16 the pulses are relayed to the pads 15, 27 via the wires 36. The controls 37 (Fig. 1) of the control unit 20 create a first infra-red (IR) or hard wired link 38 to the pulse generator 35 to select the type of treatment, i.e. toning or massage, and control the frequency and strength of the pulses. The control unit 20 may be the above described watch device 21 or may be a computer, which operates in response to a program on a disc. With little pressure between the pads 27 and the person's face, 50 volt pulses are required to provide effective stimulation. However, with sufficient pressure between the pads 27 and the face as provided by the resilience of the links 24, 25 and/or the springs 41, the pulse voltage may be reduced to 25 volts for satisfactory stimulation. A second IR link 39 to the receiver 16 or hard wired link via the power unit 18, is provided to control which pads 15, 27 are active. The watch 21 or computer 20 may also display the chosen settings. An audio unit 40, e.g. a personal radio/cassette player may be connected to the pack 18 by audio lead 23, or the computer 20 may be used, so that the output of the audio unit 40 or the sound card of the computer 20 can be relayed to the head unit 11 and the ear pad 13 via combined lead 17, thereby allowing the person to listen to the audio unit 40 or music played by computer 20 whilst being massaged, and also restricting the number of leads to the head unit 11. Control of the audio unit 40 may be by controls on the unit itself, and/or by the controls 37 of the controller 20. In addition, the output from the audio system 40 or computer 20 when received by the control unit 18 may be used to control the electrical pulses applied by the pads 15, 27 in response to and either in or out of synchronisation with that output signal as desired. The signal receiving device 16 may vary a parameter of the electrical pulse in response to the output signal from the audio system 40 or computer 20 on receiving a corresponding signal from the control unit 18. The output signal from the audio system 40 or computer 20 may be used to control the strength, frequency, waveform and/or the duration of the electrical pulses applied to the person by the pads 15, 27.

By means of the invention a facial muscle stimulator is provided which is convenient for home as well as for salon use. The person undergoing treatment can move around during the treatment and perform other activities such as domestic chores, using exercise apparatus, walking, travelling by vehicle or the like. The person can also listen to music, exercise instructions or other radio programme, and when music is listened to, the facial stimulation may be in synchronisation with the music for an enhanced effect. At all times the person has the facility to control the stimulation or massage applied, thereby reducing the risk of excess stimulation or overuse.

Other embodiments of apparatus within the scope of the invention will be readily apparent to persons skilled in the art. For example the links 14 may comprise one part or more than two

mutually articulated parts. The audio unit 40 may be combined with the power unit 18, and/or may comprise a mini-disc player. Instead of the belt clip 19, a belt or strap may be attached to the battery pack 18. The sides of the box section of the links 24, 25 may be tapered to co-operate with the tapered sides of the enclosed part of the mounting blocks 30 instead of the sides of the slot 29 and the protruding part. The head unit 11 may comprise a hat, for example a baseball cap, instead of the head band 12. Although a facial muscle stimulator 10 is illustrated and described, the apparatus could be adapted for stimulation of other muscles of the body, the head unit 11 being replaced by a body unit adapted to be worn by the person about some other part of his/her body, e.g. around the waist for toning/massaging tummy muscles.

WHAT WE CLAIM IS

1. A body treatment product for applying electrical pulses to the skin, having at least one body contactor operable to apply electrical pulses to the body of a person being treated and a control unit operable to control the characteristics of the electrical pulses, comprising a body unit adapted to be worn on the person and which supports the at least one body contactor.

2. A body treatment product according to claim 1, wherein the body unit is a head unit adapted to be worn on the head.

3. A body treatment product according to claim 2, wherein the body contactor is a facial contactor.

4. A body treatment product according to any one of claims 1 to 3, wherein the aid has a plurality of body contactors.

5. A body treatment product according to claim 4, wherein each of the body contactors is supported by the body unit.

6. A body treatment product according to claim 4 or claim 5, wherein each of the body contactors is a pad.

7. A body treatment product according to claim 4 or claim 5 wherein each of the body contactors is a probe.

8. A body treatment product according to claim 6, wherein each body contacting pad has an adhesive body contacting surface.

9. A body treatment product according to claim 8, wherein each pad comprises an adhesive pad detachably connected to a mounting block.

10. A body treatment product according to claim 9, wherein each adhesive pad is connected to the respective mounting block by means of a 'press-stud' fixing.

11. A body treatment product according to any one of claims 4 to 10, wherein each body contactor is supported by the body unit by means of a link.

12. A body treatment product according to claim 11, wherein each link is pivotally attached to the body unit.

13. A body treatment product according to claim 11 or claim 12, wherein each link is pivotally attached to a respective body contactor.

14. A body treatment product according to any one of claims 11 to 13, wherein each link is formed of a plurality of parts.

15. A body treatment product according to claim 14, wherein each part is pivotally attached to an adjacent part.

16. A body treatment product according to any one of claims 11 to 15, wherein each link is of a resilient material.

17. A body treatment product according to claim 16, wherein each link is a polyethylene extrusion.

18. A body treatment product according to any one of claims 11 to 15, wherein links on opposed sides of the body unit are resiliently biased towards each other.

19. A body treatment product according to any one of claims 11 to 18, wherein each link is formed as a box section.

20. A body treatment product according to claim 19, wherein each body contactor is slidable longitudinally of the respective link.

21. A body treatment product according to claim 20, wherein each body contactor has at least 10 mm of sliding movement.

22. A body treatment product according to claim 21, wherein each body contactor has up to 15 mm of sliding movement.

23. A body treatment product according to claim 20 when dependent on claim 9, wherein the sides of the links and the mounting blocks have co-operating tapers.

24. A body treatment product according to any one of claims 4 to 23, wherein the control unit is operable to control the electrical pulses applied by the body contactors remotely.

25. A body treatment product according to claim 24, wherein the control unit is operable to control the pulses by means of an infra-red signal.

26. A body treatment product according to claim 24 or claim 25, wherein a signal receiving device is mounted on the body unit.

27. A body treatment product according to claim 26, wherein the signal receiving device is operable to increment a parameter of the electrical pulse by a predetermined amount on receiving a signal from the control unit.

28. A body treatment product according to claim 27, wherein the parameter is the strength of the electrical pulses.

29 A body treatment product according to claim 28, wherein the pulse voltage is between 50 and 25 volts.

30. A body treatment product according to claim 27, wherein the parameter is the frequency of the electrical pulses.

31. A body treatment product according to any one of claims 27 to 30, wherein the parameter is the duration of the electrical pulses.

32. A body treatment product according to any one of claims 24 to 31, wherein the control unit is operable to control which body contactors are active.

33. A body treatment product according to any one of claims 24 to 32, wherein the control unit is adapted to be worn by the person being treated.

34. A body treatment product according to claim 33, wherein the control unit is adapted to be worn on the wrist of the person.

35. A body treatment product according to claim 34, wherein the control unit comprises a watch.

36. A body treatment product according to claim 35, wherein the watch has a stop watch function.

37. A body treatment product according to claim 35 or claim 36, wherein the watch has a timer function.

38. A body treatment product according to any one of claims 24 to 32, wherein the control unit comprises a computer.

39. A body treatment product according to any one of claims 35 to 37, wherein the control unit has a re-use delay function.

40. A body treatment product according to any one of claims 24 to 39, wherein the control unit is electrically connected to a power unit.

41. A body treatment product according to claim 40, wherein the power unit is adapted to be worn by the person.

42. A body treatment product according to claim 41, wherein the power unit is adapted to be worn on the belt of the person.

43. A body treatment product according to any one of claims 1 to 42, also comprising an audio system.

44. A body treatment product according to claim 43, wherein the body unit comprises headphones.

45. A body treatment product according to claim 44, wherein an audio device is connected to the headphones.

46. A body treatment product according to claim 45, wherein the audio device is a radio.

47. A body treatment product according to claim 45 wherein the audio device is a tape or disc player.

48. A body treatment product according to any one of claims 45 to 47, wherein the audio device is adapted to be worn on a belt of the person.

49. A body treatment product according to any one of claims 43 to 48, wherein the control unit is operable to control the volume of the audio system.

50. A body treatment product according to any one of claims 43 to 49, wherein the control unit is operable to control the operating mode of the audio system.

51. A body treatment product according to any one of claims 43 to 49, wherein the audio system is coupled to the control unit whereby the control unit is operable to control the electrical pulses applied by the body contactors in response to an output signal from the audio system.

52. A body treatment product according to claim 51, wherein the signal receiving device varies a parameter of the electrical pulse in response to the output signal from the audio system on receiving a corresponding signal from the control unit.

53. A body treatment product according to claim 52, wherein the audio system output signal is used to control the strength, frequency, waveform and/or the duration of the electrical pulses.

54. A body treatment product according to claim 53, wherein the electrical pulses are in synchronisation with audio system output signal.

55. A body treatment product substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

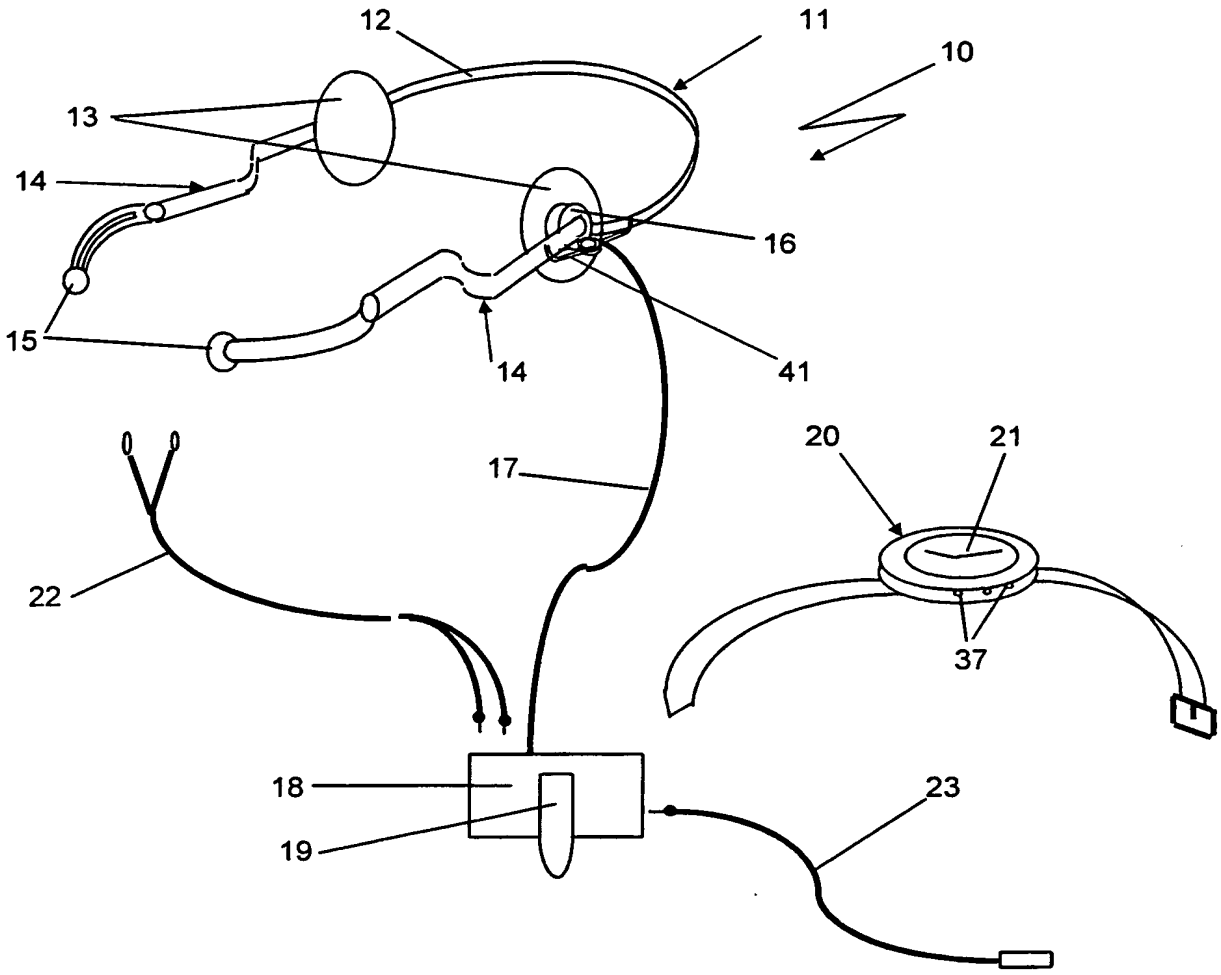

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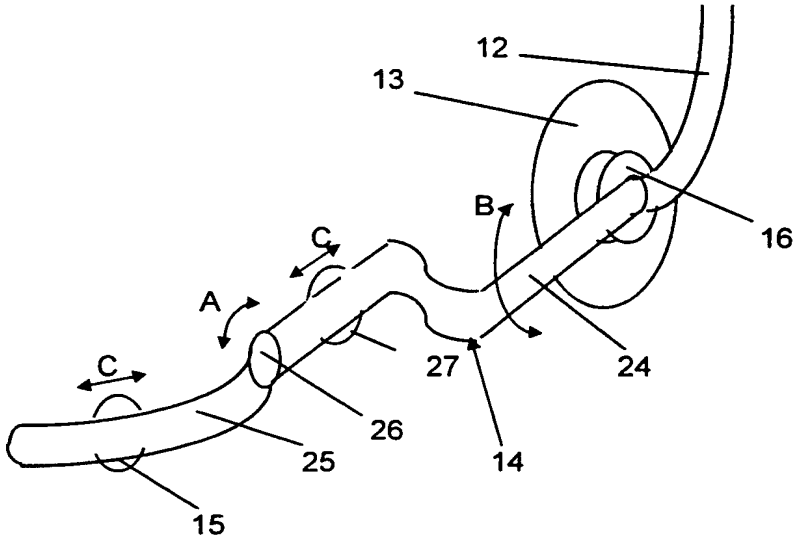
Fig. 1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15

Fig. 2

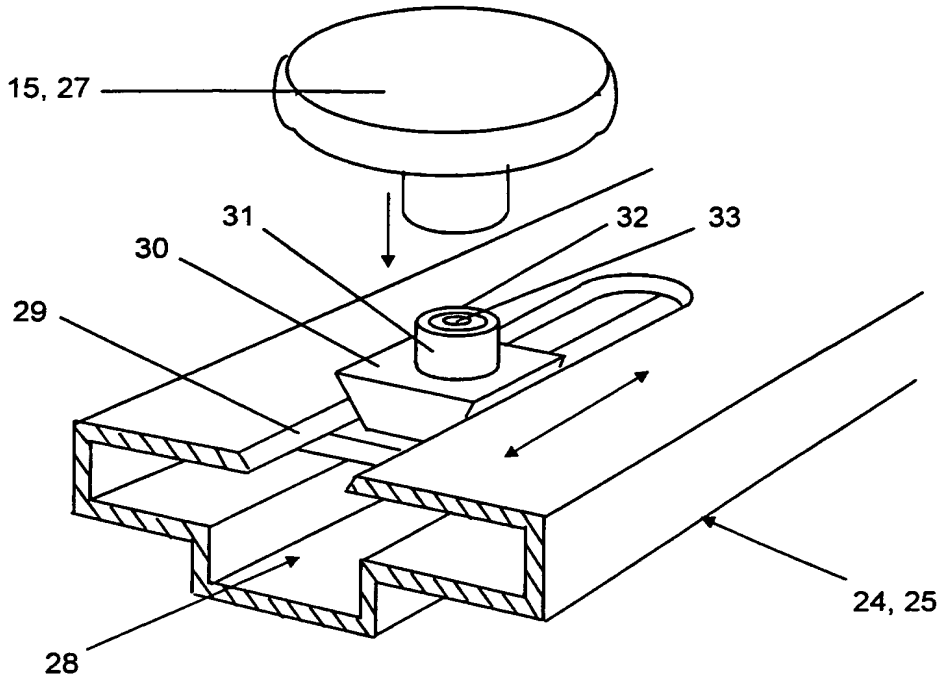
15, 27
31
32
33
30
29
24, 25
28

Fig. 3

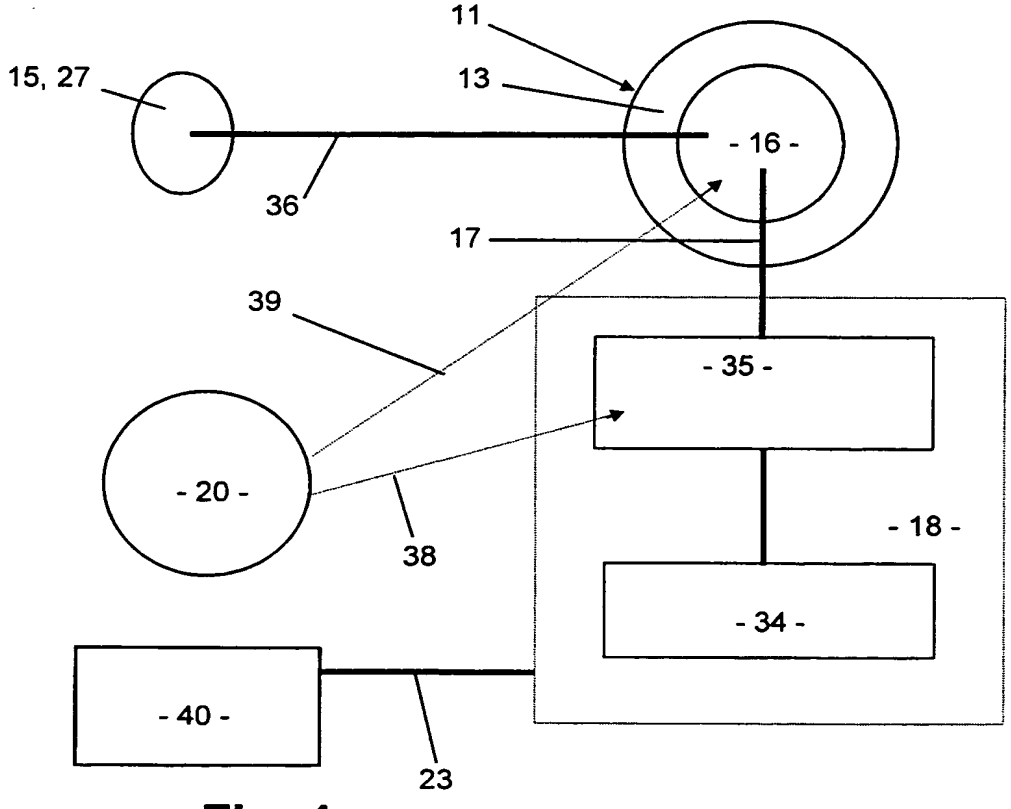
11
15, 27
13
- 16 -
36
17
39
- 35 -
- 20 -
38
- 18 -
- 34 -
- 40 -
23

Fig. 4

PATENT COOPERATION TREATY

RECD 13 JUL 2001

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PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
RG-32PCT		
International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/GB00/01841	15/05/2000	20/05/1999
International Patent Classification (IPC) or national classification and IPC A61H23/02		
Applicant C-KESP LIMITED et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 9 sheets, including this cover sheet.

   ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 10 sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the report
   - II ☐ Priority
   - III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV ☐ Lack of unity of invention
   - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations suporting such statement
   - VI ☐ Certain documents cited
   - VII ☒ Certain defects in the international application
   - VIII ☐ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
20/12/2000	11.07.2001
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer: Krantz, L Telephone No. +49 89 2399 2523

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB00/01841

I. Basis of the report

1. With regard to the **elements** of the international application *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*:
Description, pages:

1	as originally filed			
2-6	as received on	06/06/2001	with letter of	01/06/2001

Claims, No.:

1-52	as received on	06/06/2001	with letter of	01/06/2001

Drawings, sheets:

1/2,2/2	as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

   These elements were available or furnished to this Authority in the following language: , which is:

   - ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
   - ☐ the language of publication of the international application (under Rule 48.3(b)).
   - ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

   - ☐ contained in the international application in written form.
   - ☐ filed together with the international application in computer readable form.
   - ☐ furnished subsequently to this Authority in written form.
   - ☐ furnished subsequently to this Authority in computer readable form.
   - ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
   - ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

   (Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

   ☐ the entire international application.

   ☒ claims Nos. 24 - 52.

because:

   ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

   ☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 27 - 52 are so unclear that no meaningful opinion could be formed (*specify*):
   see separate sheet

   ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

   ☒ no international search report has been established for the said claims Nos. 24 - 26 .

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

   ☐ the written form has not been furnished or does not comply with the standard.

   ☐ the computer readable form has not been furnished or does not comply with the standard.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	2 - 23
	No:	Claims	1
Inventive step (IS)	Yes:	Claims	NONE of the examined
	No:	Claims	2 - 23
Industrial applicability (IA)	Yes:	Claims	ALL
	No:	Claims	

2. Citations and explanations
see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

The following documents cited in the International Search report will be referred to by means of the following appellation:

D1 : US-A-3 025 858
D2 : US-A-3 490 458
D3 : US-A-3 762 396
D4 : US-A-5 248 295
D5 : US-A-3 464 416
D6 : US-A-3 659 614

The final examination is being carried out on the following application documents:

description pages :
1 as originally filed
2 - 6 received 6.6.2001 with letter of 1.6.2001
claims 1 - 52 " " "
drawings 1/2 , 2/2 as originally filed

III

Claims 24 - 26 have never been searched :
Since claims 1 - 4 are not inventive (see elsewhere in this communication) claims 24 - 26 , which are appended directly to claim 4 , present subject-matter which may or may not have something in common with the remaining claims.
Therefore lack of presence of prior art is critical to determine a posteriori lack of unity.
Claims 24 - 26 are identical to original claims 24 - 26 which were not searched (see second search-report of 26.10.2000 second sheet of Form PCT-ISA-210)
Therefore the subject-matter in these claims will not be further commented upon.

III .2

The subject-matter of claim 27 was not originally disclosed :
original claim 27 said that the signal-receiving-device
(eg. infra-red receiver 16 in fig 1) is capable of INCREMENTING
a parameter of the electrical pulses.
Present claim 27 says the parameter is VARIED which need not be
an increment.
Original page 5 line 21 said the signal-receiving-device 16 can VARY
a parameter.
Yet original page 5 did not suggest the constellation of electrical-circuits
which is now in claim 1 and whereof the signal-receiving-device forms
a portion since claim 27 depends on claim 1.
Claim 1 is ONLY supported by original claims 51 nad 52 see elsewhere
in this communication.
Original page 5 merely disclosed that the pads 15 , 27 were controlled
EITHER by computer-20 OR by audio-unit-40 but NOT from
audio-unit-40-signals send VIA computer-20 , which is now in claim 1.
On original page 5 both units audio-system-40 and computer-20 send
their signals to power-unit-18 , but NOT to each other 40 > > 20.
The computer 20 on original page 5 is also called a CONTROL-UNIT
see original page 5 line 5.
Erroneously this name is also used for the power-unit-18 or
battery-pack-18 see original page 5 line 22 :
"... computer 20 on receiving a corresponding signal from the control unit 18"
Even if the reference numerals 18 and 20 are ignored here , then
the computer does not receive signals from ITSELF
see also 18 and 20 in figure 4.

III .3

Claims 28 - 52:
These claims depend on claim 24
(whose subject-matter has not been searched and may form an independent invention since claims 1 - 4 are not inventive)
and on claim 27
(whose subject-matter was not originally suggested)
whereby claims 28 - 52 are not further examined.

V

The subject-matter of claim 1 is not new over D2 figure 3 :
The subject-matter of claim 1 was originally in claims 51 and 52 but nowhere in the description .
Thus everywhere on original page 5 it was said that the electrical pulses to the pads 15 are controlled by EITHER the audio-system-40 OR the computer-control-unit-20 which both send their signals to battery-pack-power-unit-18.
Yet original claims 51 and 52 give full support for present claim 1 , namely that the audio-signals 40 pass VIA the control-unit 20 to the body-contactors 15.

In D2 fig 3 modulator 14 is a control-unit since it controls the amplitude of the pulses to the body-contactors 16 and 17.
The control-unit 14 has a potentiometer 15 for this control see D2 column 4 line 50 :
"... control potentiometer 15 will regulate the amplitude ... from terminals 16 and 17"
11 in D2 fig 3 is an audio-system , D2 col.2 L.65 - 70 :
"musical source 11 ... any source"

The terminals 16 , 17 in D2 have to be attached somehow to the body of the patient see D2 col.2 L.62 :

"... contact elements 9 and 10 which are placed in contact with ... regions of the body of the subject" .

This corresponds the body-unit 11 adapted to be worn in claim 1 of the application.

The control-unit 14 in D2 fig 3 RECEIVES the output-signal 12 from the audio-system 11 via loudspeaker 12 and microphone 31.

Then the control-unit 14 with its modulation-circuit in D2 fig 4 provides a CORRESPONDING signal (on transistor 27 D2 fig 4) which controls a parameter (amplitude , modulation) of the electrical pulses from body-contactors 16 , 17 see D2 col.4 L.58 :

"the subject experiences exhilarating exercise of muscular contractions in time with the beat of the music emanating from the speaker 12"

Thus the present application does not satisfy the criterion set forth in Article 33(2) PCT because the subject-matter of claim 1 is not new Rule 64 PCT.

V .2

Claims 2 - 7 are not inventive :

The body-contactors 9 - 10 or 16 - 17 in D2 can be applied to ANY portion of the body D2 column 2 line 62 :

"selected ... regions of the body" .

See also the head-electrodes or pads 10 in D1.

V .3

Claims 8 - 10 are not inventive:

It is common known since many years to attach electrodes of all kinds to the skin by pads with adhesive eg. ECG-electrodes or Iontophorese-electrodes in D4 column 3 line 18 :

"tacky or sticky ... ridge 32" .

V .4

Claims 11 - 23 are not inventive :
These claims relate to the mechanical relation or connection between the body-unit 11 (head-band 12 in fig 1 of the invention) in claim 1 and the body-contactors or electrodes 15.
To establish this connection via pivotable and slidable links is known from D5.
Body-contactors 20 and 21 in D5 fig 1 are connected to head-band 65 (body-unit) via pivotable 25 and slidable 29 links.

See also links 21 and 26 in D6 fig 3 between body-unit 2 (headband) and electrical face-electrodes 5 and 6 , D6 fig 1.

VII

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D2 , D4 , D5 and D6 is not mentioned in the description, nor are these documents identified therein.

*